DF443

Dual High-Frequency Horn



Overview

The DF443 is a high-output, dual high-frequency horn providing a precise 45° x 30° pattern for applications where spot-fill of high frequencies is required. Dual 4 inch diaphragm high frequency compression drivers provide substantial output suitable for mid to long throw applications.

Fulcrum Acoustic's **TQ**™ processing leads to exceptional clarity and precise transient response, even at very high sound pressure levels. The required digital signal processing can be provided by one of many supported platforms.

The DF443 is particularly effective in applications where supplemental HF coverage may be required due to occlusion from the primary loudspeakers by hockey dasher boards, building structural elements, or similar.

Performance Specifications[1]

Operating Mode
Single-amplified w/ DSP

Operating Range [2]
320 Hz to 20 kHz

Nominal Beamwidth
45° x 30°

Transducers
(2) 4.0" titanium diaphragm, neodymium magnet compression driver

Power Handling @ Nominal Impedance [3]
40 V (400 W @ 4 Ω)

Nominal Sensitivity @ Input Voltage [4] (whole space)
117 dB @ 2.00 V

Nominal Maximum SPL (peak / continuous)
149 dB / 143 dB

Equalized Sensitivity @ Input Voltage [5]
114 dB @ 2.00 V

Equalized Maximum SPL (peak / continuous) [6]
146 dB / 140 dB

Recommended Power Amplifiers
400 W to 800 W @ 4 Ω

Physical Specifications

Connections
(2) Neutrik NL4 Speakon
Pin 1+/-: HF
Pin 2+/-: No Connection

Mounting / Suspension Points
(4) M10 x 1.5 eye bolt angle points, (2) M10 x 1.5 yoke points, (1) M10 x 1.5 pull back point

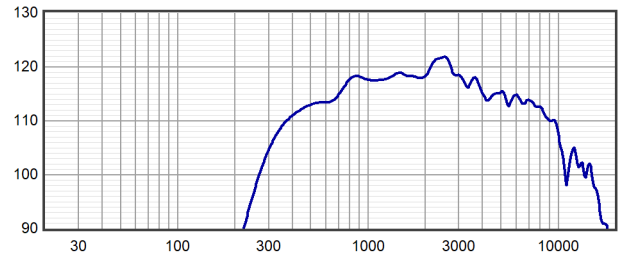
Dimensions / Weight
See pages 5 & 6

Finish
Black or white painted enclosure

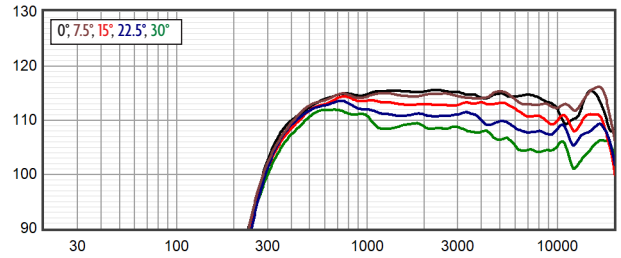
Options

YK-DF4 yoke bracket, Terminal strip input, Custom color finish

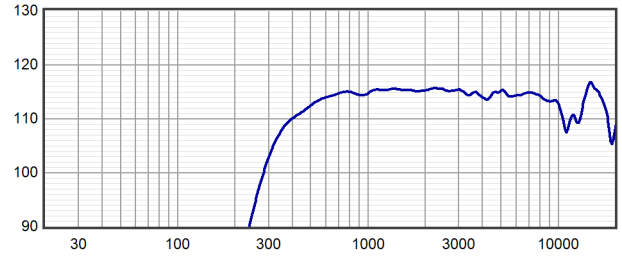
Axial Sensitivity (dB SPL, 2.00 V @ 1 m)[7, 8]



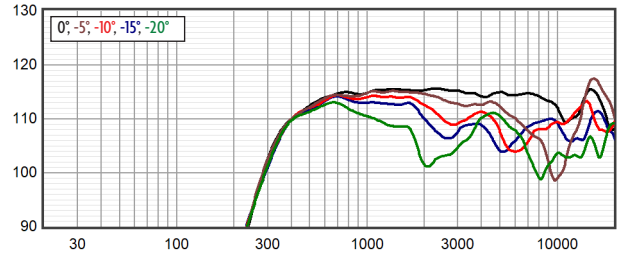
Horizontal Off Axis Response[7, 11]



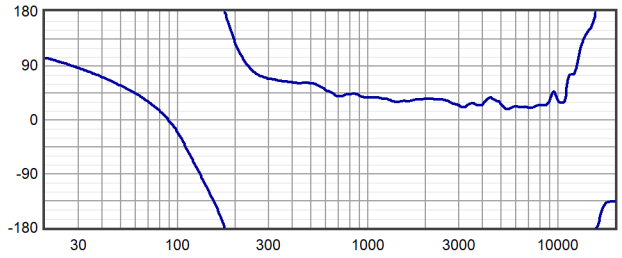
Axial Processed Response (dB)[7, 9]



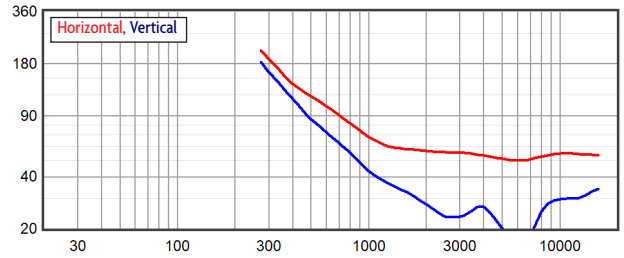
Vertical Off Axis Response[7, 11]



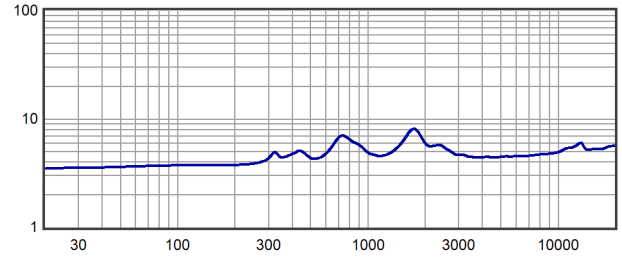
Axial Processed Phase Response (degrees)[7, 10]



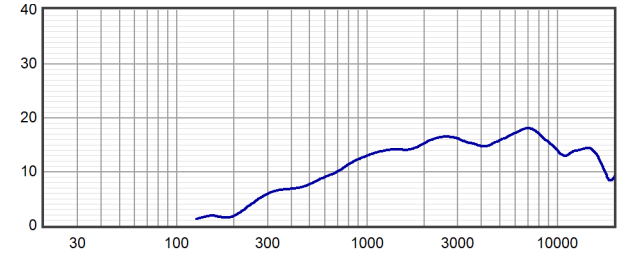
Beamwidth[7, 12]



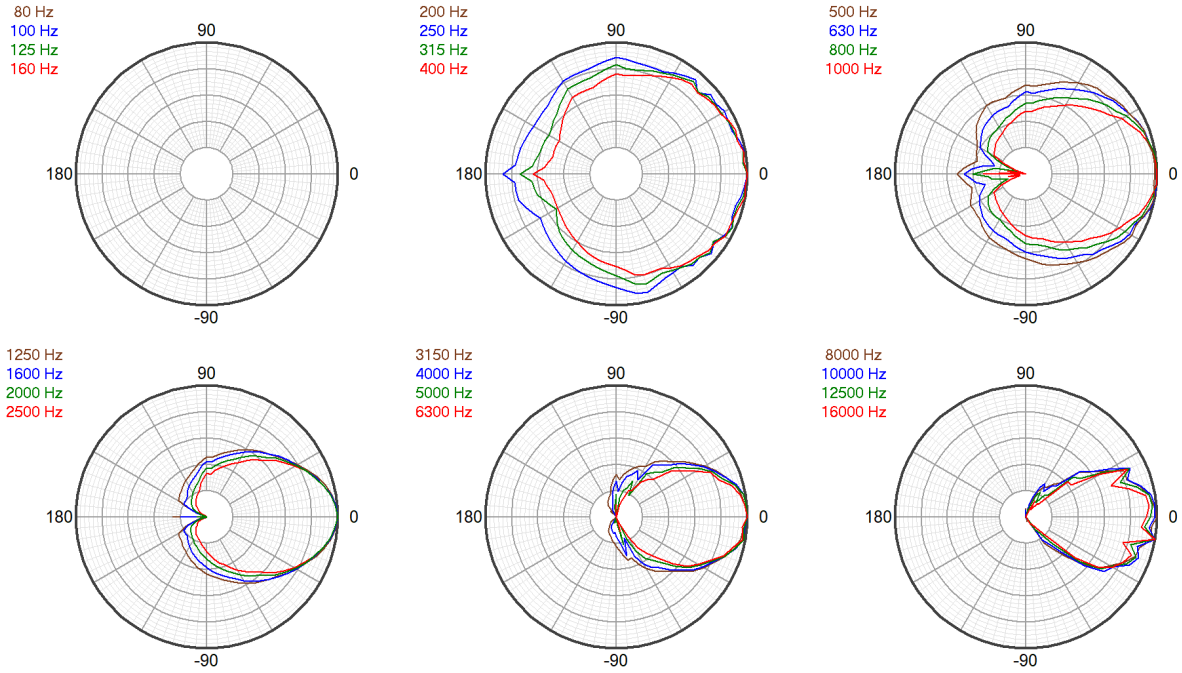
Impedance (ohms)



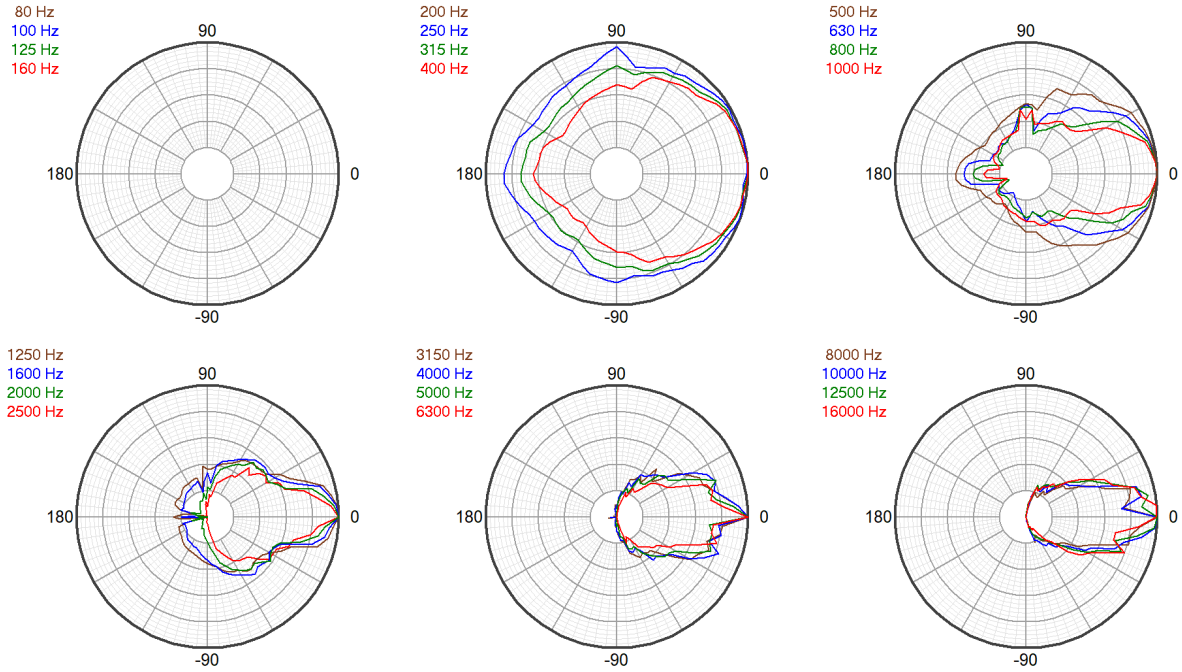
Directivity Index (dB)[13]



Horizontal Polar Response (30 dB Scale, 6 dB per Major Division)

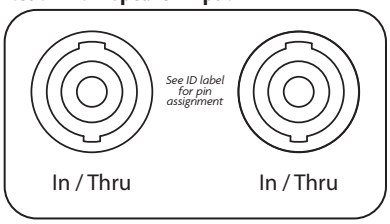


Vertical Polar Response (30 dB Scale, 6 dB per Major Division)



Connections

Neutrik NL4 Speakon Input



Mechanical Specification Drawings

2D and 3D DWG dimensional drawings are available for download at www.fulcrum-acoustic.com/resources

Notes

[1] **Performance Specifications** *All acoustic specifications rounded to nearest whole number. External DSP with Fulcrum Acoustic-provided settings is required to achieve the specified performance.*

[2] **Operating Range** *The frequency range within which the processed response is within 10 dB of the average.*

[3] **Power Handling** *Based on the AES power handling of the transducers.*

[4] **Nominal Sensitivity** *The 1-meter-referenced SPL produced by a 1 watt band limited pink noise signal, with no processing applied.*

[5] **Equalized Sensitivity** *The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which produces a total power of 1 watt, in sum, to the loudspeaker subsections.*

[6] **Equalized Maximum SPL** *The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which drives at least one subsection to its rated power.*

[7] **Resolution** *All response graphs are subjected to 1/6 octave cepstral smoothing with a gaussian weighting function.*

[8] **Axial Sensitivity** *The SPL plotted against frequency for a 1 watt swept sine wave, referenced to 1 m with no signal processing.*

[9] **Axial Processed Response** *The axial magnitude response with recommended signal processing applied.*

[10] **Axial Processed Phase Response** *The axial phase response with recommended signal processing applied, and latency removed.*

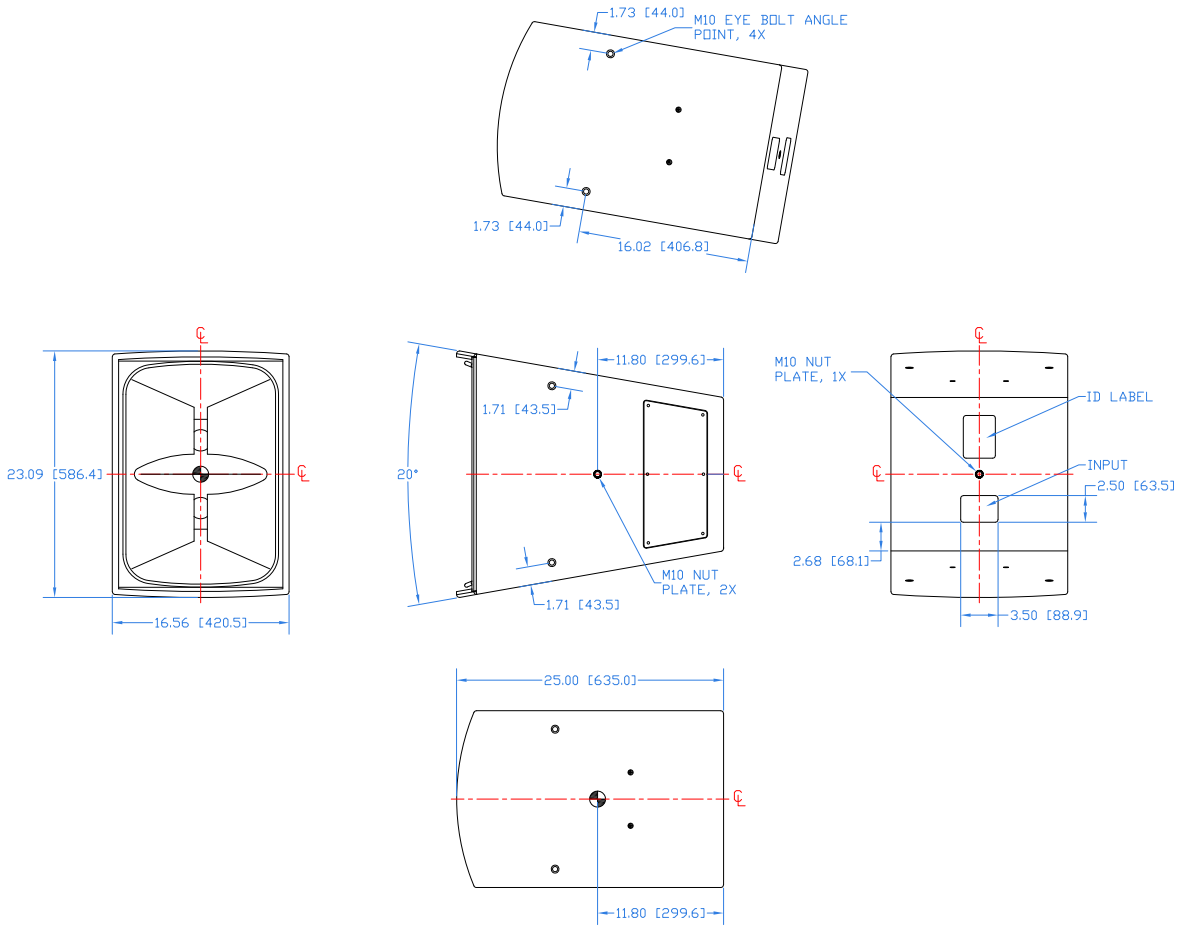
[11] **Horizontal / Vertical Off Axis Responses** *The magnitude response at various angles off axis, with recommended signal proceessing applied.*

[12] **Beamwidth** *The angle between the -6 dB points in a loudspeaker's polar response.*

[13] **Directivity Index (D_I)** *The ratio of the on-axis sound pressure squared to the spherical average of the sound pressure squared at a particular frequency expressed in dB. To convert the directivity index to directivity factor (Q) use the formula* $10^{D_I/10}$.

Notes:
1. Net Weight = Approx. 56.0 lb / 25.4 kg
2. Symbol ⊙ = M10x1.5 eye bolt angle point
3. Symbol ⊙ = M10x1.5 nut plate
4. Symbol ⊕ = CoG
5. Drawing representative of:
   DF443, DF463

REVISIONS		
REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 11/4/20
2	RENAME DOC, UPDATE NOTES	RAF 1/28/21
3	UPDATE NOTES, ADD BOTTOM M10 PTS	RAF 2/27/26

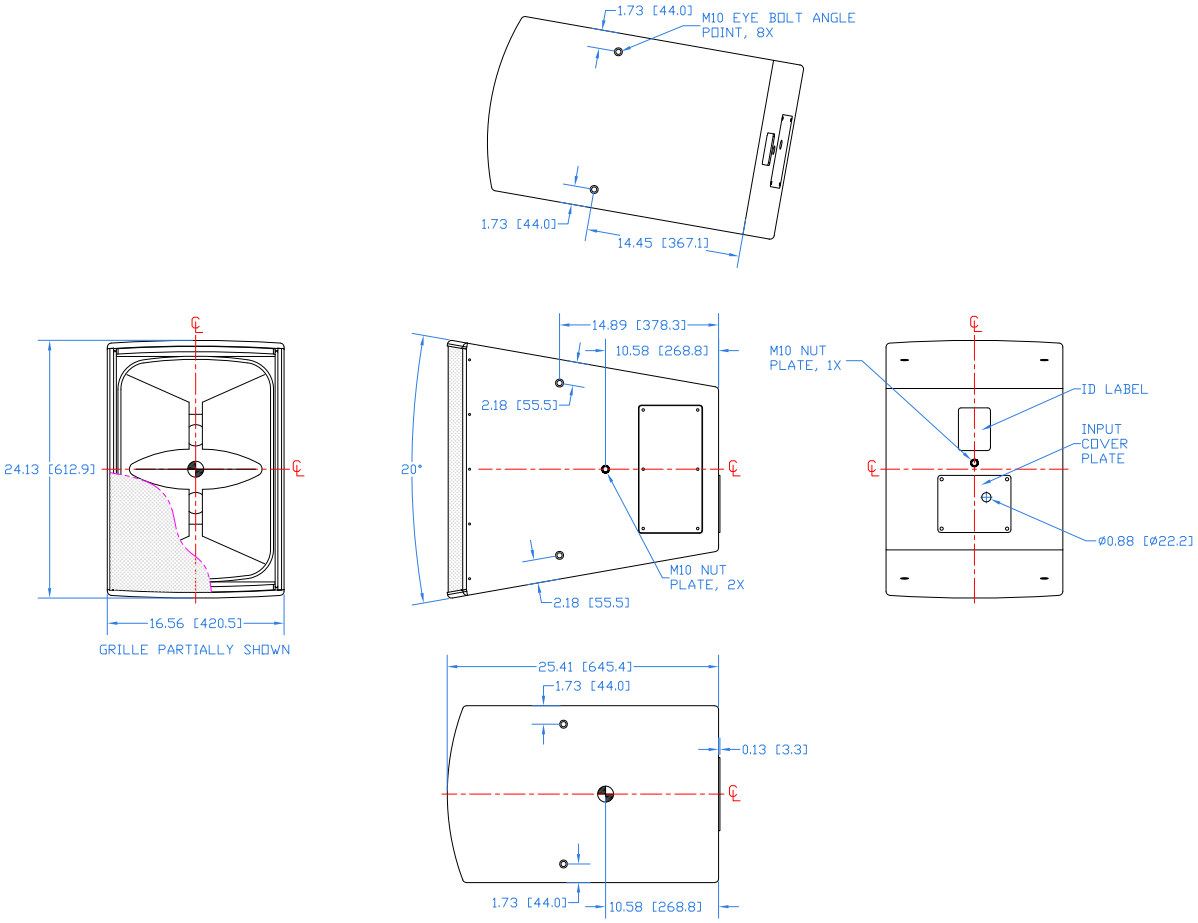


THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES TOLERANCE IN INCHES .X±.1 .XX±.015 .XXX±.005 FRACTIONS ±1/32 ANGLES ±1/2° (X.XX) = REF DIMS NO TOLERANCE IMPLIED TSC = THEORETICAL SHARP CORNER DIMENSIONS ACROSS CENTERLINES TO BE SYMETRICAL	STATUS RELEASED	FULCRUM ACOUSTIC, LLC 1 MAIN STREET, WHITINSVILLE, MA 01588 USA
		APPROVALS / DATE	TITLE: Mechanical Spec. DF4 Series
		DRAWN: RAF 11/4/20	
		CHECKED: DEW 11/4/20	
		DES ENG:	B SHEET 1 OF 1 SCALE: 1:16
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Drawing is reduced. Do not scale.

Notes:
1. Net Weight <= Approx. 56.0 lb / 25.4 kg
2. Symbol ⊙ = M10x1.5 eye bolt angle point
3. Symbol ⊙ = M10x1.5 nut plate
4. Symbol ⊕ = CoG
5. Drawing representative of:
   DF443-WR, DF463-WR

REVISIONS		
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1	NEW ISSUE	RAF 8/16/24
2	UPDATE NOTES, MOVE REAR NUT PLATE	RAF 2/27/26

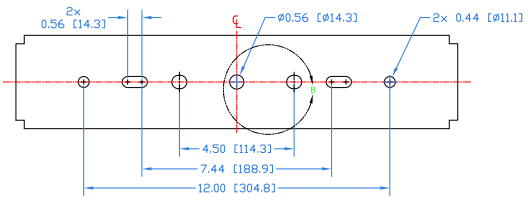


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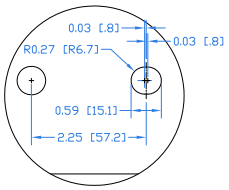
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REVISIONS		
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1	NEW ISSUE	06/26/20
2	UPDATE WASHERS	08/05/25

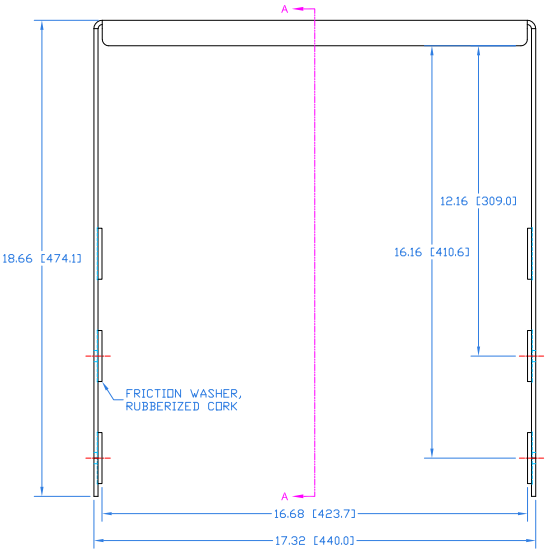
Notes:
1. Fits: DF4 Series
2. Net Weight: Approx. 9.0 lb / 4.1 kg
3. Material: 8 GA ASTM A36 steel
4. Includes 2x each M10 socket head cap screws, split washers, and flat washers



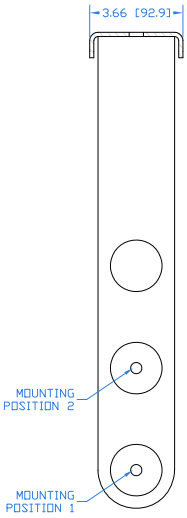
TOP



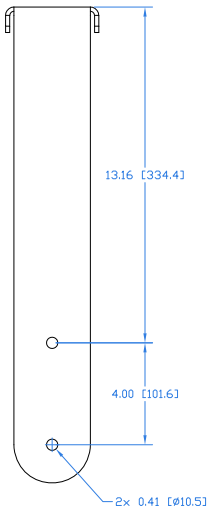
DETAIL B
SCALE 2:1



FRONT



SECTION A-A



RIGHT SIDE

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		APPROVALS / DATE	
		DRAWN: RAF 01/28/21	TITLE: Mechanical Spec, YK-DF4 Yoke Bracket
		CHECKED: DEW 01/28/21	
		DES ENG:	A SHEET 1 OF 1 SCALE: 1:6
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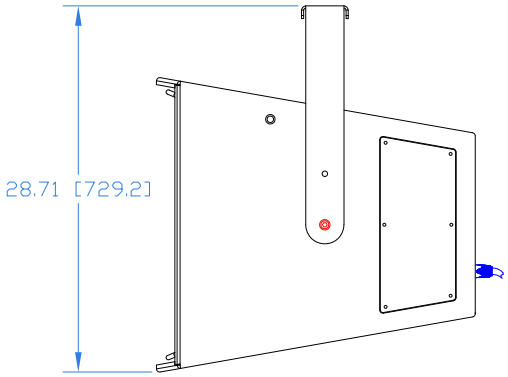
Drawing is reduced. Do not scale.

Notes:
The YK-DF4 yoke bracket is designed to mount DF4 Series loudspeakers in a horizontal orientation. It is fitted with two mounting holes which allow the installer to vary the distance between the loudspeaker enclosure and the mounting surface.

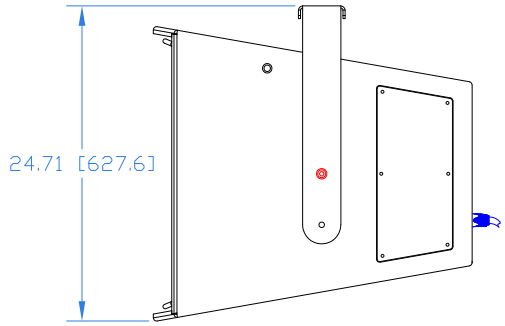
Note that the range of motion is restricted when the enclosure is mounted closer to the yoke. The maximum range of motion is achieved when the enclosure is mounted to the holes nearest the end of the bracket arms.

REVISIONS

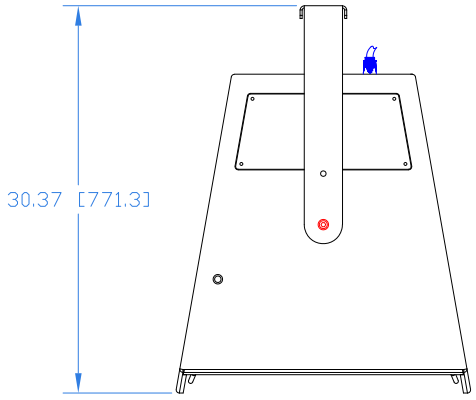
REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 01/28/21
2	CHANGE DRAWING ORIENTATION	RAF 08/05/25

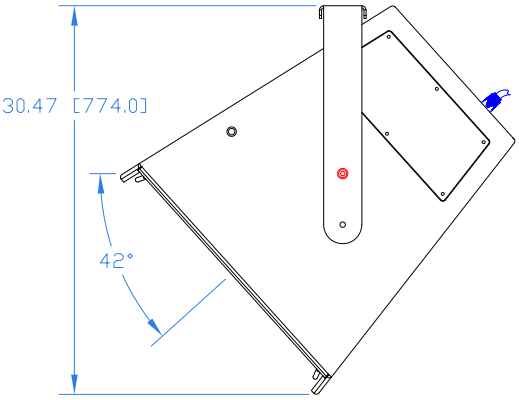


MOUNTING POSTION 1



MOUNTING POSTION 2





THIRD ANGLE PROJECTION

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ALL DIMENSIONS ARE IN INCHES

TOLERANCE IN INCHES
.X±.1 .XX±.015 .XXX±.005
FRACTIONS ±1/32
ANGLES ±1/2°

(X.XX) = REF DIMS NO TOLERANCE IMPLIED

TSC = THEORETICAL SHARP CORNER

DIMENSIONS ACROSS CENTERLINES TO BE SYMETRICAL

STATUS	RELEASED	
APPROVALS		DATE
DRAWN:	RAF	01/08/21
CHECKED:		
DES ENG:		
MFG ENG:		

FULCRUM ACOUSTIC, LLC
1 MAIN STREET, WHITINSVILLE, MA 01588 USA

TITLE: Mechanical Spec, YK-DF4 + DF4xx Assembly

A | SHEET 1 OF 1 | SCALE: 1:12

DWG. NO. 820-300-048 | REV 2

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